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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,901	07/03/2003	Masahiko Kamijoh	236205US2	3608
22850 7590 11/30/2007 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MORRISON, THOMAS A	
			ART UNIT 3653	PAPER NUMBER
			NOTIFICATION DATE 11/30/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/611,901

Applicant(s)

KAMIJOH, MASAHIKO

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/30/2007 has been entered.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 4/2/2007 was filed after the mailing date of the Non-final Office Action mailed on 2/26/2007. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. In particular, it is noted that the examiner inadvertently initialed only one of the two references listed on the form 1449 associated with this IDS. The examiner has included a new copy of this form 1449 with both of the listed references initialed, to clarify that both references in this IDS have been considered by the examiner.

Claim Rejections - 35 USC § 112

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, section 2173.05(h) of the MPEP states

I. MARKUSH GROUPS

Alternative expressions are permitted if they present ***no uncertainty or ambiguity*** with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from the group consisting of A, B and C." See *Ex parte Markush*, 1925 C.D. 126 (Comm'r Pat. 1925). *Ex parte Markush* sanctions claiming a genus expressed as a group consisting of certain specified materials. Inventions in metallurgy, refractories, ceramics, pharmacy, pharmacology and biology are most frequently claimed under the Markush formula but purely mechanical features or process steps may also be claimed by using the Markush style of claiming. See *Ex parte Head*, 214 USPQ 551 (Bd. App. 1981); *In re Gaubert*, 524 F.2d 1222, 187 USPQ 664 (CCPA 1975); and *In re Harnisch*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980). It is improper to use the term "comprising" instead of "consisting of." *Ex parte Dotter*, 12 USPQ 382 (Bd. App. 1931).

With regard to the second Markush group set forth in claim 1, applicant improperly uses the terms "said second material **being one of** a ABS resin..." instead of "consisting of", which makes claim 1 uncertain and ambiguous. (emphasis added). As such, claim 1 is indefinite. See MPEP 2173.05(h).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0036377 (Togashi) in view of the article entitled

"Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan".

Regarding claim 1, Figs. 11-13 and 53 of Togashi show an image forming apparatus (30), including

- an image forming section (near 35); and

- a sheet feed apparatus (near 4) aligned to feed a sheet to the image forming section (near 35) and having

- a sheet feed roller (4) in pressing contact with an uppermost sheet of a plurality of sheets, and

- a tilt member (including 6 and 9 in Figs. 11-13) opposing the sheet feed roller (4), the tilt member (including 6 and 9) including

- a tilt member main body (6);

- a contact face (9b) in direct contact with the sheet feed roller (4), and

- a tilt face (9a) in contact with an edge of the uppermost sheet.

Moreover, Togashi discloses that the tilt face (9a) and the contact face (9b) are made of a first material (metal in numbered paragraph [0108]) and the tilt member main body (6) is made of a second material (synthetic resin in numbered paragraph [0102]) different from the first material. More specifically, Fig. 13 and numbered paragraphs [0114]-[0115] of Togashi provide a general teaching of the advantages of using a different material (e.g., metal) in the region where the contact face and the tilt face are located than the tilt member main body (6) (i.e., the synthetic resin tilt member main body 6), because this region is **susceptible to abrasion**. However, Togashi does not

explicitly disclose that the tilt face (9a) and the contact face (9b) are made of a first material consisting of one of PE and PBT, as claimed.

The article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan" explains the use of PBT in office automation (e.g., printers), and explains that PBT is suitable for injection molding and has **large abrasion resistance** and low friction resistance. See Introduction on page 5 and pages 8-9 of this article. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide PBT plastic rather than the metal disclosed in Togashi in the region of the tilt face and the contact face, because PBT plastic offers large abrasion resistance, as taught by the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan", while also reducing manufacturing cost by replacing the metal with the PBT plastic.

Also, numbered paragraph [0102] of Togashi discloses that since the tilt member main body (6) has a **complicated shape** it is preferable that the tilt member main body (6) be integrally molded of a synthetic resin. All of the listed second materials ABS, POM and PC in claim 1 are synthetic resins. However, Togashi does not explicitly disclose that the tilt member main body (6) is made of a second material being one of ABS, POM and PC.

The article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan" discloses that polycarbonate (PC) is has small molding shrinkage, which makes it suitable for parts that require high shaping

precision. See e.g., page 7 of this article. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to provide the apparatus of U.S. Patent Publication No. 2002/0036377 with a tilt member main body that is made of PC, because PC is suitable for parts that require high shaping precision such as the complicated shape of the tilt member main body, as taught by the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan". Thus, all of the limitations of claim 1 are met by this combination of references.

Response to Arguments

5. Applicant's arguments filed 10/30/07 have been fully considered but they are not persuasive.

Applicant argues

Briefly recapitulating, amended Claim 1 is directed to An image forming apparatus, comprising: an image forming section; and a sheet feed apparatus aligned to feed a sheet to the image forming section and comprising a sheet feed roller in pressing contact with an uppermost sheet of a plurality of sheets, and a tilt member opposing the sheet feed roller, said tilt member including a tilt member main body, a contact face in direct contact with the sheet feed roller, and a tilt face in contact with an edge of the uppermost sheet, wherein said tilt face and said contact face are made of a first material consisting of one of polyethylene (PE), and polybutylene terephthalate (PBT), said tilt member main body is made of a second material different from the first material, said second material being one of a ABS resin, polyacetal (POM), and polycarbonate (PC).

Claim 1 is amended to recite Applicants' invention with varying scope. Support for this amendment is found in paragraph [0048] of Applicants' published application. No new matter is added. In Togashi, the tilt member 6, including the contact face, is integrally molded of a synthetic resin. In at least the third through fifth embodiments of Togashi, the contact face of the integrally molded tilt member is covered by a metal

plate or carbon/glass fiber reinforced hard synthetic resin and in contact with a sheet feed roller 2. However, Togashi does not disclose or suggest a tilt member main body made of a second material different from the first material. Applicants' dual material construction affords greater performance and lower manufacturing and maintenance costs as compared to the integrally molded construct of Togashi. Furthermore, Togashi teaches away from Applicants' claimed invention. That is, all of the embodiments of Togashi require that the component in question is integrally molded. Instead, upon reading Togashi, one skilled in the art would not be motivated to replace the integrally molded tilt member with Applicants' claimed two-material construction. On the contrary, upon reading Togashi, one skilled in the art would be motivated to consider various integrally molded solutions. Applicants have considered the remaining applied references and submit these references do not cure the deficiencies of Togashi.

In response, claim 1 recites "a tilt member opposing the sheet feed roller, said tilt member including a tilt member main body, a contact face in direct contact with the sheet feed roller, and a tilt face in contact with an edge of the uppermost sheet, wherein said tilt face and said contact face are made of a first material consisting of one of polyethylene (PE), and polybutylene terephthalate (PBT), said tilt member main body is made of a second material different from the first material, said second material being one of a ABS resin, polyacetal (POM), and polycarbonate (PC)."

It is important to note that the examiner relies upon elements 6 and 9 in Figs. 11-13 of Togashi to disclose the recited tilt member. More specifically, the examiner relies upon element 6 to disclose the tilt member main body, portion 9b of element 9 to disclose the contact face, and portion 9a of element 9 to disclose the tilt face. In other words, the examiner does **not** rely upon any portion of element 6 to disclose the contact face or the tilt face of claim 1. Rather, the examiner relies upon element 6 to disclose

the tilt member main body of claim 1. Then, the examiner relies upon element 9 to teach an element that has the contact face (9b) and the tilt face (9a).

Togashi also discloses that the tilt face (9a) and the contact face (9b) are made of a first material (i.e., metal in numbered paragraph [0108]) and the tilt member main body (6) is made of a second material (i.e., synthetic resin in numbered paragraph [0102]) different from the first material. Thus, the tilt member has a dual material construction (i.e., metal contact face and tilt face and synthetic resin tilt member main body). Accordingly, there is no teaching away from providing a dual material construction.

Moreover, the examiner relies upon Fig. 13 and numbered paragraphs [0114]-[0115] of Togashi and the introduction section on page 5 and pages 8-9 of the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan" to provide motivation for making element 9 of Togashi out of PBT plastic rather than metal. Namely, PBT offers large abrasion resistance, while also offering the advantage of reduced manufacturing cost by replacing the metal with the PBT plastic.

Lastly, the examiner relies upon numbered paragraph [0102] of Togashi and page 7 of the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan" to provide motivation for making the tilt member main body (6) of Togashi out of polycarbonate (PC).

The end result is a tilt member with a tilt member main body made from polycarbonate (PC) and an element with a contact face and a tilt face made from PBT plastic. This meets all of the limitations of claim 1 as now amended.


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/14/2007


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